

Application No. 10/763,135
Amendment Dated April 23, 2010
Reply to Office Action of March 29, 2010

REMARKS/ARGUMENTS

By this Amendment Claims 61, 62 and 63 are amended. Claims 35, 36, 38-42, 44-52, 54 and 58-63 are pending in the application.

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

The Examiner rejects claims 35, 39, 44-48, 54, 55 and 58-62 under 35 U.S.C. 103(a) as being unpatentable over Fellenstein et al. (U.S. Patent No. 7,406,691B2) (Fellenstein), in view of Barsness et al. (U.S. Patent No. 7,379,884 B2) (Barsness), and further in view of D'Ippolito et al. (U.S. Patent. No. 7,107,496) (D'Ippolito).

The Examiner believes that Fellenstein in view of Barsness do not teach the threshold performance requirement and a monetary penalty amount for not meeting the threshold performance as specified by a service level agreement. However, the Examiner believes that D'Ippolito teaches the service violation data unit that includes a delivered field for identifying the performance achieved under the metric, an agreed field (equivalent to the Applicants' threshold performance according to the Examiner) for identifying the agreed performance to be provided under the metric according to the service level agreement, a penalty/impact field (equivalent to the Applicants' monetary penalty amount according to the Examiner) for identifying the cost associated with failure to meet the agreed performance under the metric (the Examiner directs the Applicants' attention to Col. 7, lines 27-52 and Figure 8). Furthermore, the Examiner believes that it would have been obvious for one of ordinary skill in the art at the time of the invention to combine Fellenstein in view of Barsness with D'Ippolito to include the agreed field and the penalty/impact field in the SLA in order to efficiently negotiate a SLA between a service requester and a resource manager.

In the Applicants' invention a number of nodes in a cluster execute applications pursuant to a service level agreement (SLA). When the terms of the SLA cannot be met, more servers are requested from a remote location. The decision whether to allocate more server nodes to meet

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the demand is negotiated on the basis of dollar amounts as specified by the SLAs, rather than basing the decision only on the conventional calculations of the actual computing resources. In making these decisions the Applicants' invention considers factors such as the dollar cost of not meeting the SLA, including the SLA specified dollar penalties for not meeting the requirements, the dollar costs of accepting the resources granted, etc.

More specifically, the decision whether to allocate additional servers depends on the dollar value of the penalties as set by the SLA for not meeting the terms of the SLA. This determination is made in addition to any other conventional factors such as dropping packets, downgrading packets to different server levels, etc. Therefore, the Applicants' Claims 61, 62 and 63 recite a limitation directed to using remote location resources in accordance with a monetary penalty amount.

The Applicants' Claim 61 therefore sets forth a method for determining whether to support an application workload at a local cluster of nodes using a resource at a remote location remote from the local cluster. The claimed method includes receiving at the remote location from the local cluster a request for at least one server node determined at the local cluster in accordance with a threshold of performance requirements of the local cluster. The request specifies a number of nodes requested, a time duration for which the requested nodes are needed, and a monetary value determined in accordance with a monetary penalty amount specified by a service level agreement. An acceptance of the request in accordance with the monetary value is transmitted from the remote location to the local cluster. The at least one server node is allocated in accordance with the monetary penalty amount.

D'Ippolito teaches performing operations upon a penalty/impact field 119 and upon a cost field 142. However, the operations performed on these fields in D'Ippolito are disclosed as being for the purpose of diagnosing problems in the system and announcing the problems as part of general system management. For example, D'Ippolito teaches using the determinations based on these fields for the purpose of characterizing performance degradation information associated with a particular problem, examining the details of service violations, prioritizing system problems, scheduling and planning maintenance, summarizing details of system operation, etc.

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D'Ippolito provides no teachings of using the determinations of penalty dollar amounts to allocate servers. In fact, D'Ippolito is completely silent with respect to the use of any criteria whatsoever for the allocation of servers.

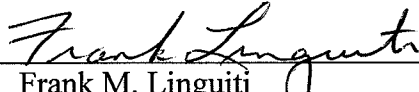
Thus, the Applicants submit that D'Ippolito does not teach allocating the at least one server node in accordance with the monetary penalty amount, as required by Claims 61, 62, 63. Accordingly, Claims 61, 62, 63 are believed to be allowable. The remaining claims depend either directly or indirectly from Claims 61, 62 or 63 and are believed to be allowable for at least the same reasons.

For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Please charge or credit our Account
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this submission.

Respectfully submitted,
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